US2004/0174865

Figure 1

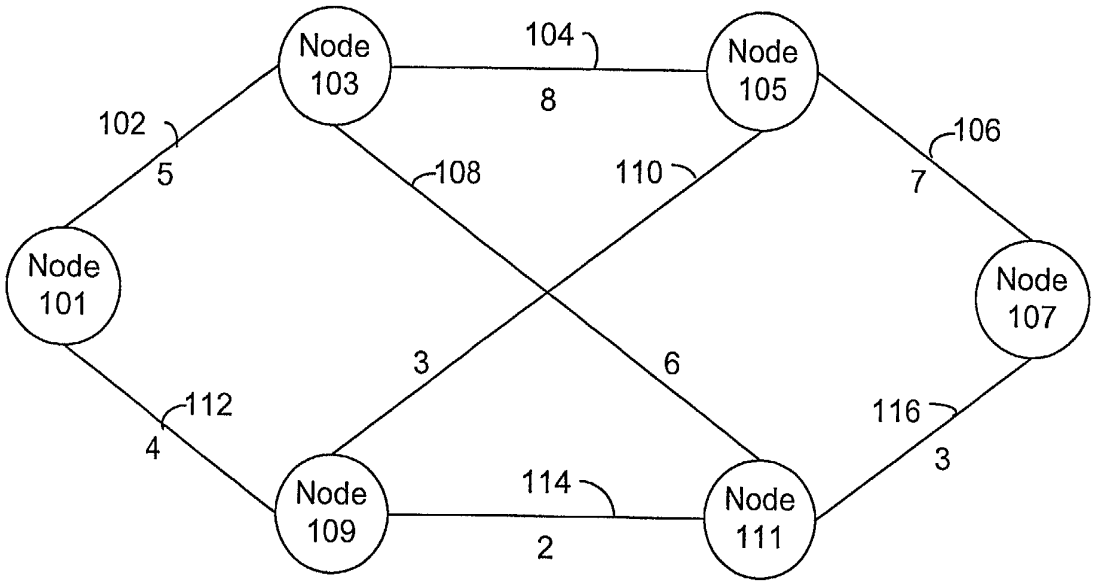


Figure 2

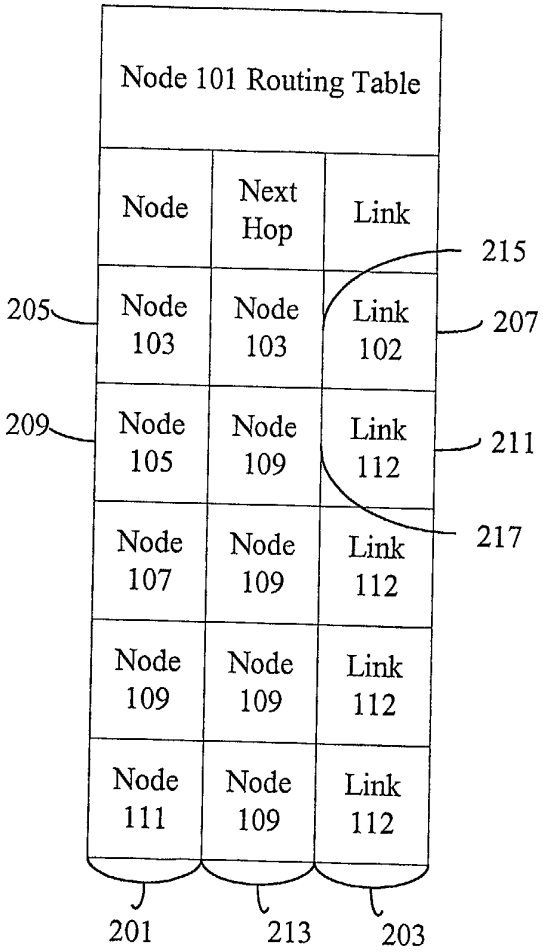

Node 101 Routing Table
Node
Next Hop
Link
205
209
215
207
211
217
Node 103
Node 103
Link 102
Node 105
Node 109
Link 112
Node 107
Node 109
Link 112
Node 109
Node 109
Link 112
Node 111
Node 109
Link 112
201
213
203

Figure 3A

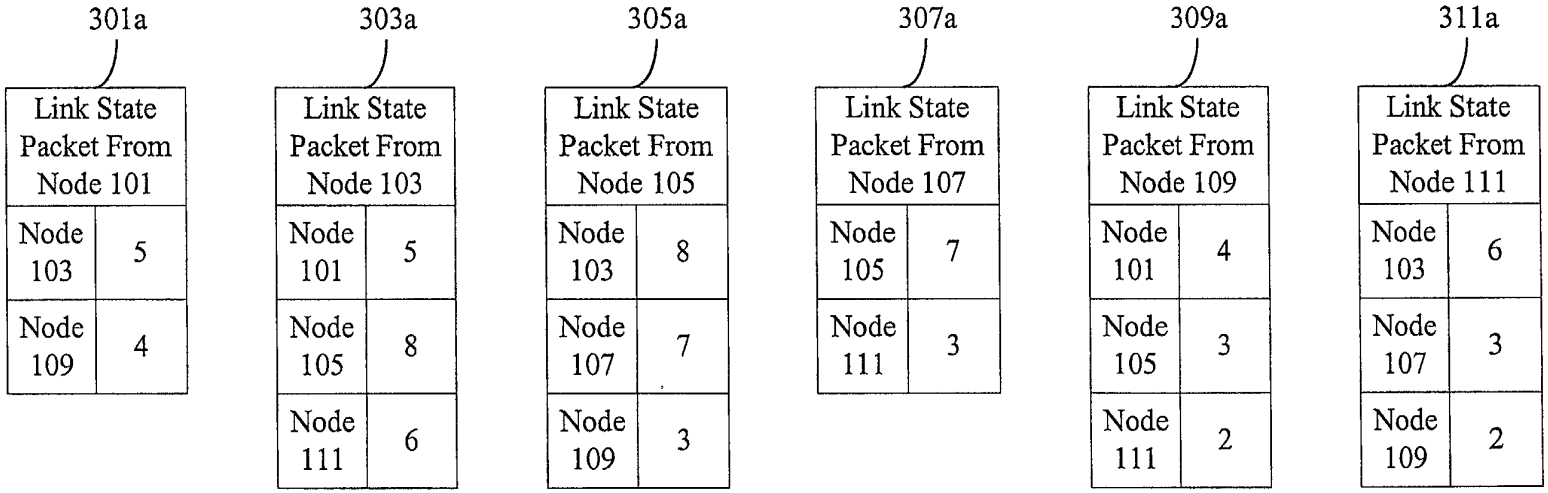

301a
Link State Packet From Node 101
Node 103
5
Node 109
4
303a
Link State Packet From Node 103
Node 101
5
Node 105
8
Node 111
6
305a
Link State Packet From Node 105
Node 103
8
Node 107
7
Node 109
3
307a
Link State Packet From Node 107
Node 105
7
Node 111
3
309a
Link State Packet From Node 109
Node 101
4
Node 105
3
Node 111
2
311a
Link State Packet From Node 111
Node 103
6
Node 107
3
Node 109
2

Figure 3B

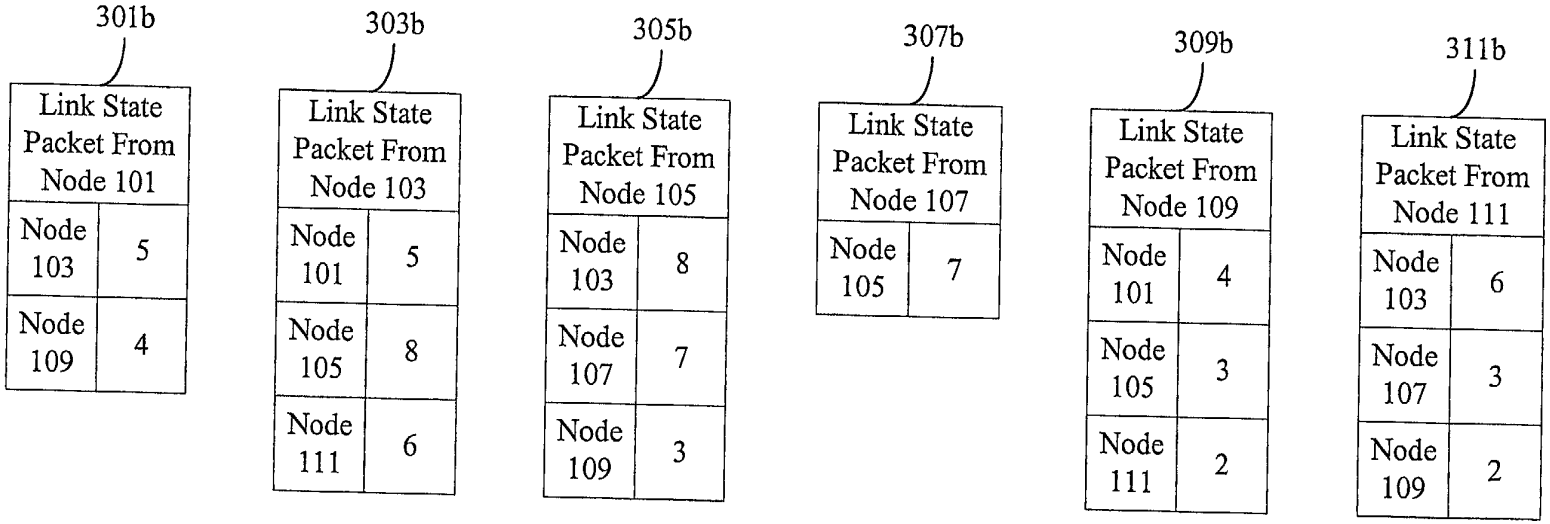

301b
Link State Packet From Node 101
Node 103
5
Node 109
4
303b
Link State Packet From Node 103
Node 101
5
Node 105
8
Node 111
6
305b
Link State Packet From Node 105
Node 103
8
Node 107
7
Node 109
3
307b
Link State Packet From Node 107
Node 105
7
309b
Link State Packet From Node 109
Node 101
4
Node 105
3
Node 111
2
311b
Link State Packet From Node 111
Node 103
6
Node 107
3
Node 109
2

Figure 4

401

PATH	Parent					
	Node					
	Metric					
TENT	Parent	101	101			
	Node	103	109			
	Metric	5	4			

402

404

403

PATH	Parent	101				
	Node	109				
	Metric	4				
TENT	Parent	101	109	109		
	Node	103	111	105		
	Metric	5	6	7		

405

PATH	Parent	101	101			
	Node	109	103			
	Metric	4	5			
TENT	Parent	109	109			
	Node	111	105			
	Metric	6	7			

407

PATH	Parent	101	101	109		
	Node	109	103	111		
	Metric	4	5	6		
TENT	Parent	109	111			
	Node	105	107			
	Metric	7	9			

409

PATH	Parent	101	101	109	109	
	Node	109	103	111	105	
	Metric	4	5	6	7	
TENT	Parent	111				
	Node	107				
	Metric	9				

411

PATH	Parent	101	101	109	109	111
	Node	109	103	111	105	107
	Metric	4	5	6	7	9
TENT	Parent					
	Node					
	Metric					

Figure 5

501

PATH						
	Verified?					
	Parent					
	Node					
	Metric					

TENT						
	Parent	101	101			
	Node	103	109			
	Metric	5	4			

503

PATH						
	Verified?	No				
	Parent	101				
	Node	109				
	Metric	4				

TENT						
	Parent	101	109	109		
	Node	103	111	105		
	Metric	5	6	7		

505

PATH						
	Verified?	Yes	No			
	Parent	101	101			
	Node	109	103			
	Metric	4	5			

TENT						
	Parent	109	109			
	Node	111	105			
	Metric	6	7			

507

PATH						
	Verified?	Yes	Yes	No		
	Parent	101	101	109		
	Node	109	103	111		
	Metric	4	5	6		

TENT						
	Parent	109	111			
	Node	105	107			
	Metric	7	9			

509

PATH						
	Verified?	Yes	Yes	Yes	No	
	Parent	101	101	109	109	
	Node	109	103	111	105	
	Metric	4	5	6	7	

TENT						
	Parent	111				
	Node	107				
	Metric	9				

511

PATH						
	Verified?	Yes	Yes	Yes	Yes	No
	Parent	101	101	109	109	111
	Node	109	103	111	105	107
	Metric	4	5	6	7	9

TENT						
	Parent					
	Node					
	Metric					

Figure 6

601

PATH	Verified?	Yes	Yes	No		
	Parent	101	101	109		
	Node	109	103	111		
	Metric	4	5	6		
TENT	Parent	109	111			
	Node	105	107			
	Metric	7	9			

603

PATH	Verified?	Yes	Yes	Yes	No	
	Parent	101	101	109	109	
	Node	109	103	111	105	
	Metric	4	5	6	7	
TENT	Parent	111				
	Node	107				
	Metric	9				

605

PATH	Verified?	Yes	Yes	Yes	Yes	No
	Parent	101	101	109	109	111
	Node	109	103	111	105	107
	Metric	4	5	6	7	9
TENT	Parent					
	Node					
	Metric					

607

PATH	Verified?	Yes	Yes	No		
	Parent	101	101	109		
	Node	109	103	111		
	Metric	4	5	6		
TENT	Parent	109				
	Node	105				
	Metric	7				

609

PATH	Verified?	Yes	Yes	Yes	No	
	Parent	101	101	109	109	
	Node	109	103	111	105	
	Metric	4	5	6	7	
TENT	Parent	105				
	Node	107				
	Metric	14				

611

PATH	Verified?	Yes	Yes	Yes	Yes	No
	Parent	101	101	109	109	105
	Node	109	103	111	105	107
	Metric	4	5	6	7	14
TENT	Parent					
	Node					
	Metric					

Figure 7A

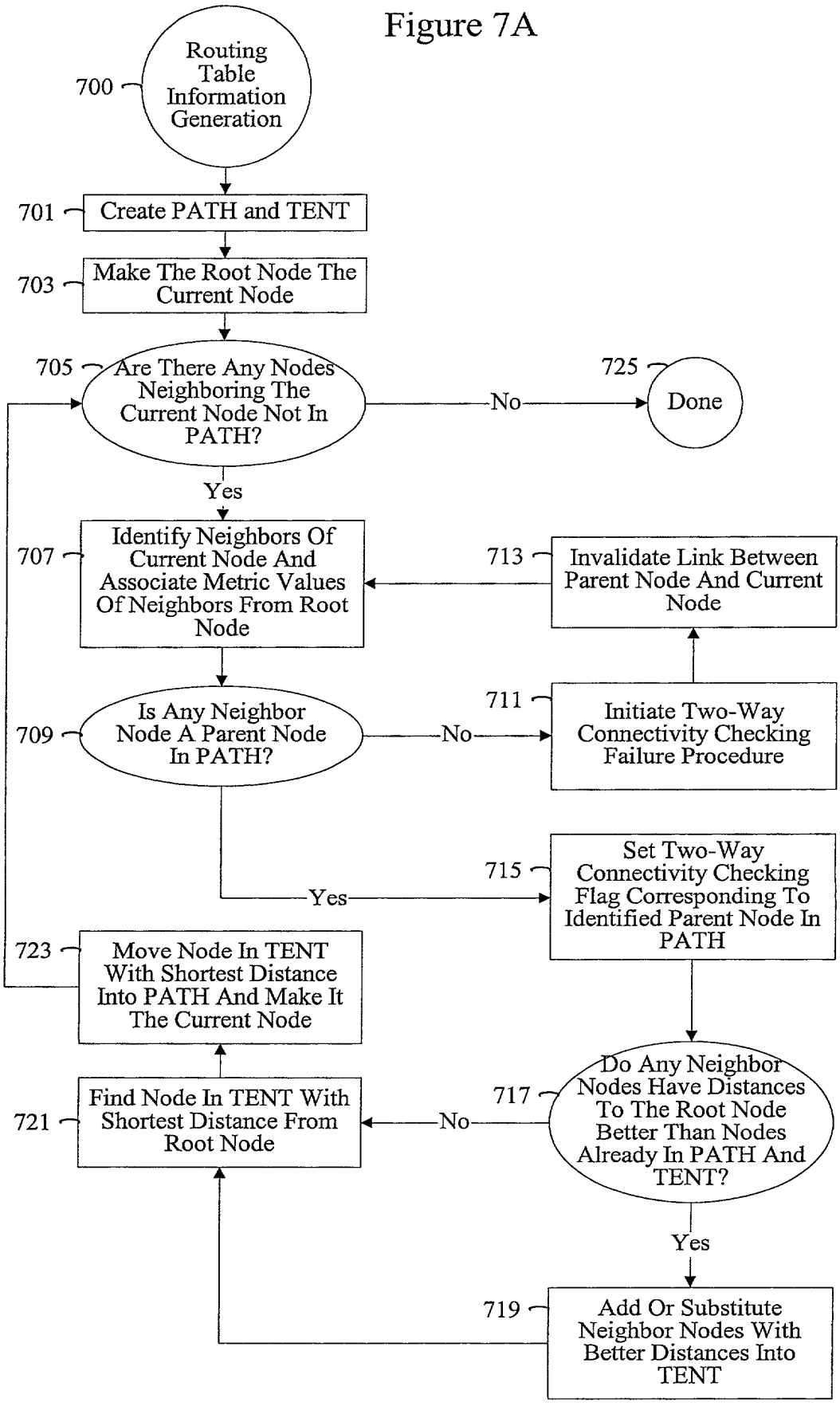

700
Routing Table Information Generation
701
Create PATH and TENT
703
Make The Root Node The Current Node
705
Are There Any Nodes Neighboring The Current Node Not In PATH?
No
725
Done
Yes
707
Identify Neighbors Of Current Node And Associate Metric Values Of Neighbors From Root Node
713
Invalidate Link Between Parent Node And Current Node
709
Is Any Neighbor Node A Parent Node In PATH?
No
711
Initiate Two-Way Connectivity Checking Failure Procedure
Yes
715
Set Two-Way Connectivity Checking Flag Corresponding To Identified Parent Node In PATH
723
Move Node In TENT With Shortest Distance Into PATH And Make It The Current Node
721
Find Node In TENT With Shortest Distance From Root Node
No
717
Do Any Neighbor Nodes Have Distances To The Root Node Better Than Nodes Already In PATH And TENT?
Yes
719
Add Or Substitute Neighbor Nodes With Better Distances Into TENT

Figure 7B

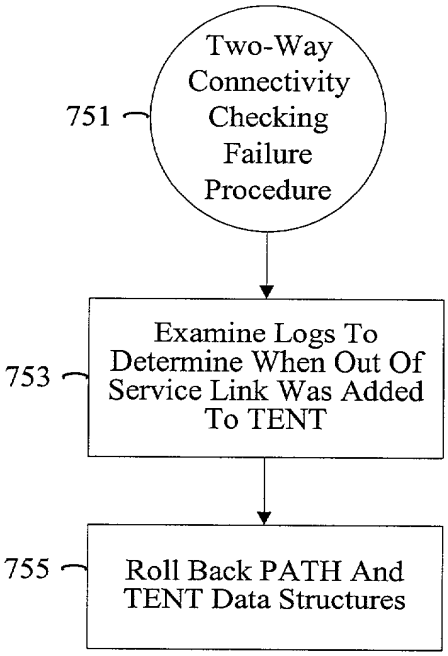
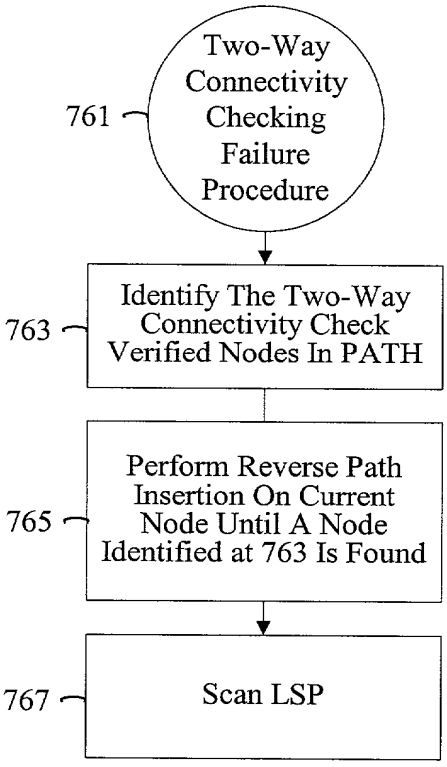


Figure 7C



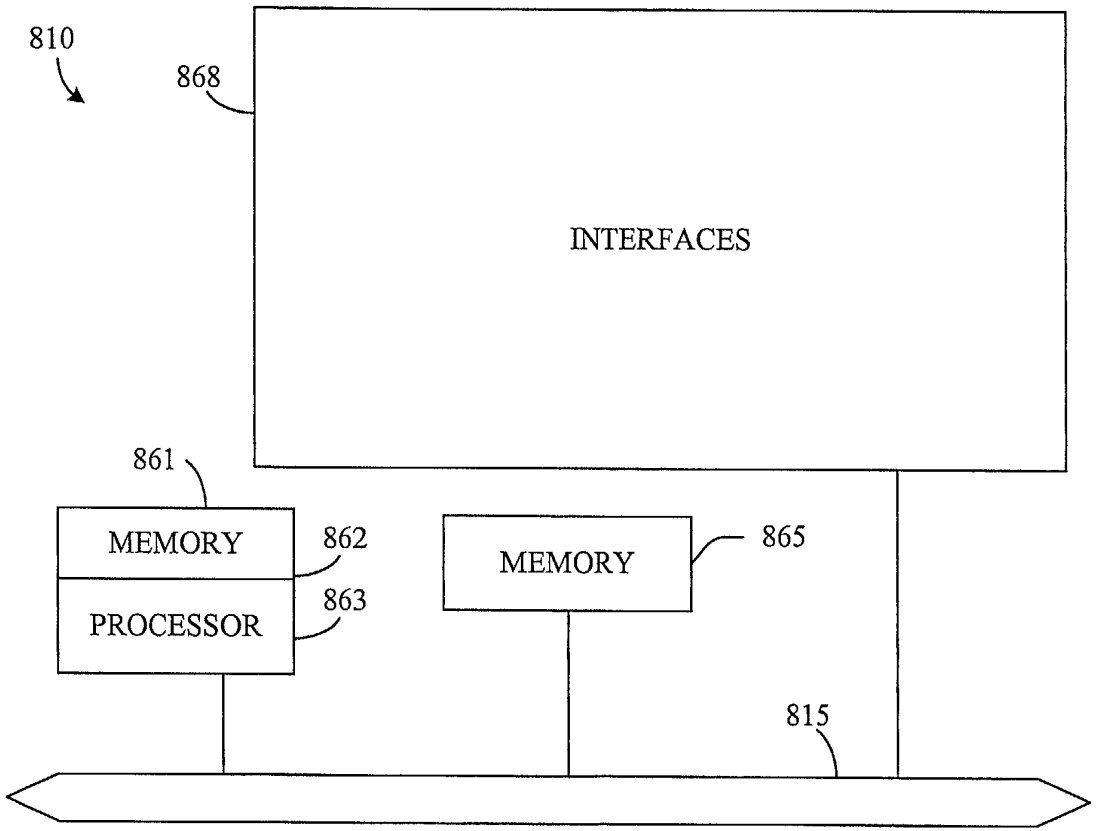

810
868
INTERFACES
861
MEMORY
862
PROCESSOR
863
MEMORY
865
815

Fig. 8